

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Atty. Docket: SHINPO=1

In re Patent of:	)	Conf. No.: 2252
	)	
Akira SHINPO et al.	)	
	)	Washington, D.C.
U.S. Patent No. 7,632,945	)	
	)	
Issued: December 15, 2009	)	June 9, 2010
	)	
For: CYANINE DYE	)	ATTN: Certificate of
	)	Correction Division

REQUEST FOR EXPEDITED ISSUANCE OF CERTIFICATE OF CORRECTION  
UNDER 37 C.F.R. §1.322

Honorable Commissioner for Patents  
U.S. Patent and Trademark Office  
ATTN: Certificate of Correction Branch  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In checking over the printed copy of the above-identified patent, we have found the following errors that are entirely the fault of the Patent and Trademark Office. It is respectfully requested that these errors be corrected in accordance with 37 CFR §1.322(a) and that the issuance of the certificate be expedited in accordance with MPEP §1480.01. The errors to be corrected are listed below.

The PTO erred by including typographical errors in claim 1. In claim 1, column 42, lines 8-9, the word "bisdithioi- $\alpha$ -diketone" should read "bisdithiol- $\alpha$ -diketone."

In accordance with MPEP §1480.01, this certificate is entitled to expedited issuance as the error is attributable

In re of U.S. Patent No. 7,632,945

solely to the Patent and Trademark Office. As proof that unequivocally supports patentee's assertions, attached hereto is the following supporting documentation:

- 1) A full copy of the last entered amendment of June 25, 2009, prior to notice of allowance issuance. This amendment clearly shows that patent claim 1 (which was originally application claim 3) was amended to read as stated above. No amendments were made by applicant or by the examiner to the above-referenced claim subsequent to the amendment of June 25, 2009.

Accordingly, it is clear that the typographical error was solely an error of the PTO. Granting of this request and issuance of the attached certificate of correction on an expedited basis are therefore earnestly solicited.

Respectfully submitted,

BROWDY AND NEIMARK, P.L.L.C.  
Attorneys for Applicant(s)

By /rlb/  
Roger L. Browdy  
Registration No. 25,618

RLB:jhw  
Telephone No.: (202) 628-5197  
Facsimile No.: (202) 737-3528  
G:\BN\IS\SUMA\Shinpo1\PTO\2010-06-09ReqCertificateofCorrection1.322.doc

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: Akira SHINPO et al.

Art Unit: 1626

IA. No. PCT/JP2004/010334  
Filing Date: July 21, 2004

Examiner: J. R. Kosack

Application No.: 10/565,592  
371(c) Date: January 23, 2006

Washington, D.C.

For: METHOD AND DEVICE FOR CULTURING LIVING CELLS

Atty.'s Docket: SHINPO1

Date: June 25, 2009

THE COMMISSIONER OF PATENTS  
U.S. Patent and Trademark Office  
Customer Service Window  
Randolph Building, **Mail Stop AF**  
401 Dulany Street  
Alexandria, VA 22314

**Confirmation No. 2252**

Sir:

Transmitted herewith is a [XX] REPLY: AMENDMENT AND REMARKS in the above-identified application.

[ ] Small Entity Status: Applicant(s) claim small entity status. See 37 C.F.R. §1.27.

[XX] No additional fee is required.

[ ] The fee has been calculated as shown below:

(Col. 1)		(Col. 2)		(Col. 3)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NO. PREVIOUSLY PAID FOR	PRESENT EXTRA EQUALS	RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
TOTAL	* 2	MINUS	** 20	0	x 26	\$		x 52	\$
INDEP.	* 1	MINUS	*** 3	0	x 110	\$		x 220	\$
FIRST PRESENTATION OF MULTIPLE DEP. CLAIM					+ 195	\$		+ 390	\$
					ADDITIONAL FEE TOTAL	\$	OR	TOTAL	\$

\* If the entry in Col. 1 is less than the entry in Col. 2, write "0" in Col. 3.

\*\* If the "Highest Number Previously Paid for" IN THIS SPACE is less than 20, write "20" in this space.

\*\*\* If the "Highest Number Previously Paid for" IN THIS SPACE is less than 3, write "3" in this space.

The "Highest Number Previously Paid For" (total or independent) is the highest number found from the equivalent box in Col. 1 of a prior amendment of the number of claims originally filed.

[XX] Conditional Petition for Extension of Time

If any extension of time for a response is required, applicant requests that this be considered a petition therefor.

[ ] It is hereby petitioned for an extension of time in accordance with 37 CFR 1.136(a). The appropriate fee required by 37 CFR 1.17 is calculated as shown below:

Small Entity

Response Filed Within

[ ] First - \$ 65.00  
[ ] Second - \$ 245.00  
[ ] Third - \$ 555.00  
[ ] Fourth - \$ 865.00

Month After Time Period Set

Other Than Small Entity

Response Filed Within

[ ] First - \$ 130.00  
[ ] Second - \$ 490.00  
[ ] Third - \$ 1110.00  
[ ] Fourth - \$ 1730.00

Month After Time Period Set

[ ] Less fees (\$ ) already paid for \_\_\_ month(s) extension of time on \_\_\_\_\_.

[ ] Please charge my Deposit Account No. 02-4035 in the amount of \$\_\_\_\_\_.

[ ] Payment in the amount of \$\_\_\_\_\_ will be made using the on-line filing system.

[ ] A check in the amount of \$\_\_\_\_\_ is attached (check no. ).

[XX] The Commissioner is hereby authorized and requested to charge any additional fees which may be required in connection with this application or credit any overpayment to Deposit Account No. 02-4035. This authorization and request is not limited to payment of all fees associated with this communication, including any Extension of Time fee, not covered by check or specific authorization, but is also intended to include all fees for the presentation of extra claims under 37 CFR §1.16 and all patent processing fees under 37 CFR §1.17 throughout the prosecution of the case. This blanket authorization does not include patent issue fees under 37 CFR §1.18.

BROWDY AND NEIMARK, P.L.L.C.

Attorneys for Applicant(s)



Anne M. Kornbau  
Registration No. 25,884

Facsimile: (202) 737-3528  
Telephone: (202) 628-5197

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ATTY.'S DOCKET: SHINPO=1

In re Application of:	)	Confirmation No.: 2252
	)	
Akira SHINPO et al.	)	Art Unit: 1626
	)	
IA. No. PCT/JP2004/010334	)	
Filing Date: July 21, 2004	)	
	)	
Appln. No.: 10/565,592	)	Examiner: J. R. Kosack
371(c) Date: January 23, 2006	)	
	)	
For: METHOD AND DEVICE FOR	)	June 25, 2009
CULTURING LIVING CELLS...	)	

AMENDMENT

Honorable Commissioner for Patents  
U.S. Patent and Trademark Office  
Customer Service Window  
Randolph Building, Mail Stop AF  
401 Dulany Street  
Alexandria, VA 22314

Sir:

Replying to the Office Action mailed April 29, 2009, please amend as follows:

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.

**Remarks/Arguments** begin on page 4 of this paper.

# Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

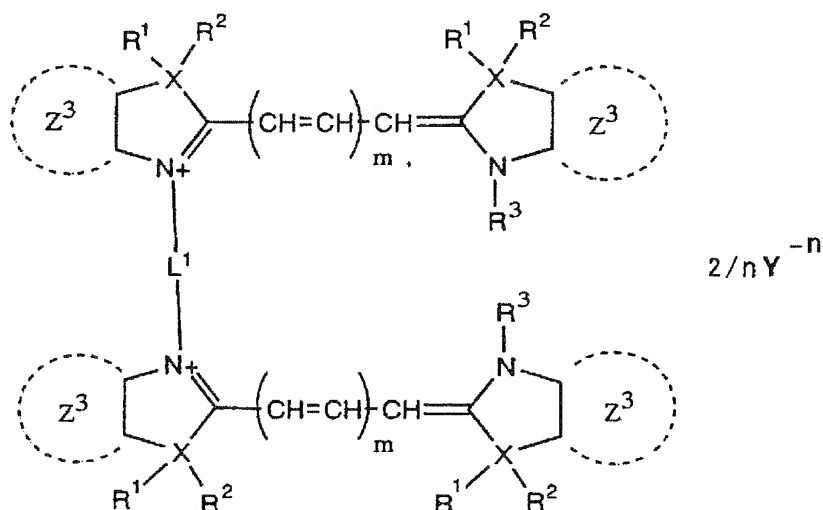
Listing of Claims:

Claim 1. (Canceled)

2. (Previously Presented) The cyanine dye as claimed in claim 3, which is not substantially decomposed when irradiated with 5 mW/cm<sup>2</sup> laser for 200 hours at a wavelength of 780 nm.

3. (Currently Amended) A cyanine dye represented by General Formula 2:

General Formula 2:



wherein in General Formula 2, X denotes a carbon atom or heteroatom of the group 15 or 16 in the periodic table excluding a nitrogen atom; Z<sup>3</sup> denotes either a benzene or naphthalene ring, while R<sup>1</sup> to R<sup>3</sup> independently denote a hydrogen atom or aliphatic hydrocarbon group, with the proviso that R<sup>1</sup> and/or R<sup>2</sup> are not present when X is a heteroatom; L<sup>1</sup> denotes a divalent group; the symbol "m" is an integer of 2 or larger; Y denotes a monovalent or multivalent anion of organometallic complex selected from the group consisting of azo, thiocatechol chelate, thiobisphenolate chelate, bisdithiol- $\alpha$ -diketone, and bisphenyldithiols; the symbol "n" is the number of charge unit in the anion of said organometallic complex; and the polymethine chain in the cyanine skeleton may bear a substituent and/or cyclic structure, said substituent being a member selected from the group consisting of an aliphatic hydrocarbon group, alicyclic hydrocarbon group, aromatic hydrocarbon group, halogen group, amino group, heterocyclic group, and combinations thereof; and said cyclic structure being a member selected from the group consisting of cyclopentene, cyclopentadiene, cyclohexene, cyclohexadiene, cycloheptene, cyclooctene, cyclooctadiene, and benzene, each of which may have a substituent similar to those in the polymethine chain.

### **REMARKS**

The Office Action of April 29, 2009, has been carefully studied. Claims 2 and 3 currently appear in this application. These claims define novel and unobvious subject matter under Sections 102 and 103 of 35 U.S.C., and therefore should be allowed. Applicant respectfully requests favorable reconsideration and formal allowance of the claims.

### **Claim Amendments**

Claim 3 has been amended to exclude nitrogen from the definition of X when X is a heteroatom, and to specify that Y is a monovalent or multivalent anion of an organometallic complex selected from the group consisting of azo, thiocatechol chelate, thiobisphenolate chelate, bsdithiol-alpha-diketone and bisphenyldithiols. Support for these amendments can be found in the specification as filed at page 4, lines 5-15, page 7, lines 6-5 from the bottom, and Chemical Formulae 1-15, 18 and 19.

### **Art Rejections**

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al., JP 10-310715. The Examiner cited the general formula in Kobayashi, although the Examiner concedes that Kobayashi does not teach compounds in which m is an integer of 2 or greater. The Examiner's position is that one of ordinary skill in the art would be motivated to create the herein claimed compounds with a reasonable expectation of success.

This rejection is respectfully traversed.

Claim 3 has been amended to make the claimed cyanine dye compounds more distinct from the Kobayashi compounds. As recited in amended claim 3, the cyanine dyes claimed herein are represented by General Formula 2, wherein X denotes a carbon atom or heteroatom of group 15 or 16 of the periodic table **excluding a nitrogen atom**. In contrast thereto, the compounds disclosed in Kobayashi have a nitrogen atom in the position corresponding to X in General Formula 2 of the present claims.

Furthermore, claim 3 has been amended to specify that Y is a monovalent or multivalent anion of **an organometallic complex selected from the group consisting of azo, thiocatechol chelate, thiobisphenolate chelate, bisdithiol-alpha-diketone, and bisphenyldithiols**. Contrary to this, M<sub>1</sub> in Kobayashi is an anion or cation such as a hydrogen ion, an alkali metal ion, an alkali earth metal ion, or a halogen ion.

The conditions that Y is a monovalent or multivalent anion of an **organometallic complex** provides an unexpectedly high light resistance for the cyanine dyes claimed herein. This is shown in Table 1 at page 32 of the present specification. Table 1 shows the experimental results in which cyanine dyes of Chemical Formula 2 having an anion of an organometallic complex had a residual dye rate of 91.3%, while the conventional cyanine dyes of Chemical Formula 30 having 2PF<sub>6</sub> as a counter ion had a residual dye rate of only 30.2%. Clearly, the organometallic complex cation provides unexpected superiority to the cyanine dyes claimed herein.




There is nothing in Kobayashi that teaches or suggests that the light resistance property of the compounds of Kobayashi can be remarkably improved by changing the counter ion to a monovalent or multivalent anion of an organometallic complex selected from the group consisting of azo, thiocatechol chelate, thiobisphenolate chelate, bisdithiol-alpha-diketone or bisphenyldithiols.

In view of the above, it is respectfully submitted that the claims are now in condition for allowance, and favorable action thereon is earnestly solicited.

Respectfully submitted,

BROWDY AND NEIMARK, P.L.L.C.  
Attorneys for Applicant

By  \_\_\_\_\_  
Anne M. Kornbau  
Registration No. 25,884

AMK:srd  
Telephone No.: (202) 628-5197  
Facsimile No.: (202) 737-3528  
G:\BN\S\SUMA\Shinpo1\Pto\2009-06-25Amendment.doc